CONTENTS OF VOLUME III.

NUMBER VII.

Page.

ART. I. On Zoöphytes, No. III; by JAMES D. DANA, - - 1
II. On the Induction of Atmospheric Electricity on the Wires of the Electrical Telegraph; by Prof. JOSEPH HENRY, - - 25
III. A New Mineral from the Azores; by J. E. TESCHEMACHER, 32
IV. On the Delta and Alluvial Deposits of the Mississippi, and other points in the Geology of North America, observed in the years 1845, 1846; by C. LYELL, - - - - - 34
V. Hybridity in Animals, considered in reference to the question of the Unity of the Human Species; by SAMUEL GEORGE MORTON, M.D. - - - - - - - - - 39
VI. Solution of a Mathematical Problem; by O. ROOT, - - 50
VII. On the North American Species of Isoëtes and Marsilea; by Prof. A. BRAUN.—Communicated by Dr. G. ENGELMANN, - 52
VIII. Review of the New York Geological Reports, - - 57
IX. Notice of New Fossil Footprints; by JAMES DEANE, - - 74
X. Notes on the Algæ of the United States; by J. W. BAILEY, Professor of Chemistry, &c., at the U. S. Military Academy, 80
XI. On the Fossil Vegetation of America; by J. E. TESCHEMACHER, - - - - - - - - - - - 86
XII. On the existence of certain Lacustrine Deposits, in the vicinity of the Great Lakes, usually confounded with the "Drift;" by I. A. LAPHAM, - - - - - - - - - - 90
XIII. On the Origin of Continents; by JAMES D. DANA, - - 94
XIV. Description of two New Species of Shells; by WILLIAM CASE, Cleveland, Ohio, - - - - - - - - - 101

SCIENTIFIC INTELLIGENCE.

Physics and Chemistry.—Gun-Cotton, 102.—On the Compounds of Phosphorus and Nitrogen, by C. GERHARDT, 105.—Experimental Researches on the Nutritive Power of green and dry Fodder, by M. BOUSSINGAULT: On the progressive development of Vegetable Matter in Wheat, by M. BOUSSINGAULT: Memoir on Coffee, by M. PAYEN, 106.—Researches on Blood, by M. DUMAS, 108.—New Saccharimetric Process, by M. EUG. PELIGOT, 109.—Rapid Method of estimating Copper, by means of a Colorimeter, by M. JACQUELAIN: On the Molecular Phenomena of the Voltaic Arc, by M. DE LA RIVE, 110.—On Electro-Physiology, by Prof. MATTEUCCI, 111.—Notices of the Progress of Experiments on the Influence of Light on the Growth of Plants, by R. HUNT: On the Results of an extensive series of Magnetic Investigation, including most of the known varieties of Steel, by W. PETRIE, 112.—On the Mode of Developing the Magnetic Condition, by Dr. SCORESBY, 114.—On some Results of the Magnetic Observations made at General Sir T. M. Brisbane's Observatory, Makerstoun, by J. A. BROUN, 115.—New Metal, Ilmenium, 116.

Mineralogy and Geology.—Crystallized Carbonate of Lead, at Rossie, New York, by G. HADLEY: On Coracite, a new ore of Uranium, by JOHN L. LECONTE,

M.D.: Plumbo-resinite and Cupreous Sulphato-carbonate of Lead in Missouri, by J. L. LeConte, M.D., 117.—On the Mississippi Delta, by C. Lyell, 118.—On the Origin of the Coal of Silesia, by Prof. Göppert: Remarks on the St. Louis Limestone, by G. Engelmann, M.D., 119.—Cause of the absence of Ancient Marine Formations from certain regions, by Charles Darwin, 120.

Botany and Zoology.—Hillocks of Bolax glebaria, of the Falkland Islands, 121.—On the Vertebrate Structure of the Skull, by Prof. Owen, 122.—Remarks on the Melonites multipora, by G. Engelmann, M.D., 124.—Hippopotamus at Sierra Leone: Tracks of Alligators: Wings of Locustæ: Harlanus, a new genus of fossil Pachyderms, 125.

Astronomy.—Observations on Shooting Stars, August 10, 1846, 125.—Ancient returns of Halley's Comet, 126.—Prof. Peirce's Catalogue of Comets, 127.—Le Verrier's Planet, 128.—New Comets, 132.

Miscellaneous Intelligence.—Smithsonian Institution, 132.—British Association, 133.—On boring for Artesian Wells, by M. Fauvelle, 135.—Discussion on the Potato Disease, 136.—On the Educational Statistics of Oxford, 137.—Modification of Dr. Whewell's Anemometer, for measuring the Velocity of the Wind, by Dr. Robinson: On the Ethnological Distribution of Round and Elongated Crania, by Prof. Retzius: On the Deviation of Falling Bodies from the Perpendicular, by Prof. Oersted, 138.—Method of measuring the Height of Clouds, by Dr. Whewell: Gauss's Magnetic Constants: Hydrodynamics: Refraction and Diffraction of Waves of Sound, 140.—Weather: North Pole: Dust falling on Vessels in the Atlantic: The first Atlantic Steam Navigation: Fall of Meteorites, 141.—Footmarks in the New Red Sandstone of Storeton, near Liverpool, by John Cunningham: Explosive Paper: Gun-Cotton: Railways in Italy: Opening of the Eighth Congress of Italian Savans: Monument to Columbus: Depth of the Artesian Well in the Grand Duchy of Luxemberg, 142.—Native Gold in South Australia, 143.

Obituary.—T. Monticelli: M. Aimé, 143.—Isaiah Lukens, 144.

Bibliography.—First Principles of Chemistry, for the use of Colleges and Schools, by Benjamin Silliman, Jun., M.A.: Second Annual Report on the Geology of Vermont, by Prof. C. B. Adams: Chemical Essays relating to Agriculture, by E. N. Horsford, 144.—On the Analysis of the Oat, by John P. Norton. Encyclopædia Americana, by Henry Vethake: Chemistry of the Four Seasons: Précis de Chemie Organique, by M. Charles Gerhardt, 145.—Geological Observations on South America, by Charles Darwin, M.A., F.R.S., F.G.S.: The Trees of America, by D. J. Browne: Eureka, or the Journal of the National Association of Inventors: The London Geological Journal and Record of Discoveries in British and Foreign Palæontology: Lichenes Exsiccati Amer., by E. Tuckerman: Sertum Petropolitanum, Auct. F. E. L. Fischer et C. A. Meyer, 146.—Endlicher and Martius, Flora Brasiliensis: Trautvetter, Plantarum, Imagines et Descriptiones Floram Russicam Illustrantes: Hooker, Species Filicum: Plantes Nouvelles ou Rares d'Amerique, par Steph. Moricand, 147.—Ledebour, Flora Rossica Symbolæ Caricologicæ of Drejer, 148.—Instruction in Chemical Analysis, [Quantitative,] by Dr. C. Remigius Fresenius: Taschenbuch für Freunde der Geologie, von Karl Cäsar v. Leonhard: Astronomical Observations made at the Naval Observatory, Washington, by Lieut. J. M. Gilliss, U. S. N., 149.—Astronomical Observations made during the year 1845, at the National Observatory, Washington, under the direction of M. F. Maury, A.M.

List of Works, 150.

NUMBER VIII.

Page.

Art. XV. A general Review of the Geology of Russia; by M. E. de Verneuil, - - - - - - - - 153

XVI. On Zoophytes, No. IV; by James D. Dana, - - - 160

XVII. Review of the New York Geological Reports, - - 164

Page.

XVIII. Caricography; by Prof. C. Dewey, M.D., - - - - 171

XIX. On Coracite, a new Ore of Uranium; by John L. Le Conte, M.D., - - - - - - - - - - 173

XX. Geological Results of the Earth's Contraction in consequence of Cooling; by James D. Dana, - - - - - - 176

XXI. Notes on the Herbaria, Gardens and Botanists of Upsal, St. Petersburg, &c., gathered from the letters of a distinguished botanist during a continental tour, - - - - 189

XXII. Observations on the Rocky Mountains and Oregon; from Reports of the Exploring Expeditions of Capt. J. C. Fremont, - - - - - - - - - - - 192

XXIII. Hybridity in Animals, considered in reference to the question of the Unity of the Human Species; by Samuel George Morton, M.D., - - - - - - - - 203

XXIV. Abstract of a Meteorological Journal, for the year 1846, kept at Marietta, Ohio; by S. P. Hildreth, M.D., - 212

XXV. On the Analysis of the Oat; by Prof. John Pitkin Norton, 222

XXVI. Observations on the uses of the Mounds of the West, with an attempt at their Classification; by E. G. Squier, - 237

XXVII. Description of a Fossil Maxillary Bone of a Palæotherium, from near White River; by Hiram A. Prout, M.D., - 248

XXVIII. Observations upon the Development of Electricity in Bands of Leather; by John M. Batchelder, - - 250

XXIX. Revolution of a Magnet on its own Axis without the use of Mercurial Conductors, and also without visible Support; by Chas. G. Page, M.D., - - - - - - - - 152

SCIENTIFIC INTELLIGENCE.

Chemistry and Physics.—On a Common Origin of the Acids $(CH)_nO_4$ with a boiling point below 300° Centigrade, by Dr. Jos. Redtenbacher, 254.—On the Solution of Oxygen in fused Litharge, and the circumstances attendant upon the production of Litharge on a large scale, by M. Fel. Le Blanc: On the Estimation of Silver, by Gay Lussac's Process, when Mercury is present, by M. A. Levol: A new Method of estimating Lead, by M. Flores Domonte, 255.—On the Solubility of Alumina in Ammoniated Water, by F. Malaguti and J. Durocher: Action of Perchlorid of Phosphorus on Organic Substances, by Aug. Cahours, 256.—On the transformation of Hippuric acid into Benzoic acid and Sugar of Gelatine, by M. Dessaignes: Benzoic Compounds, 257.—On Sugar of Gelatine, &c., by Aug. Laurent: On the Amides, from a letter of Malaguti: Asparamide: On the Formation of Chloro-cyanilide and Fluo-silicanilide, by Aug. Laurent and J. Delbos: On the Growth of Bone in the Hog, by M. Boussingault, 258.—Gun-cotton, 259.—Arsenic in Mineral Waters: On Fluorine, by M. Louyet, 260.—Silica: Nitrification: Phosphate of Lime in Organic Beings, 261.—On Elliptic Polarization, by Mr. Dale, 262.—On certain cases of Elliptic Polarization of Light by Reflexion, by Prof. Powell, 264.

Mineralogy and Geology.—Analysis of the American Mineral Nemalite, by Prof. Connell, 265.—Reclamation respecting the Identity of Pinite, Chlorophyllite, and other Minerals, with the species Iolite, by Charles Upham Shepard, M.D., 266.—Chiolite, a new mineral from Miask, by Fr. v. Wörth: On the alleged Coëxistence of Man and the Megatherium, by C. Lyell, 267.—Notices of the Superposition of certain Minerals in some of the Metalliferous Deposits of Cornwall and Devon, by William Jory Henwood, F.R.S., F.G.S., 269.—Geological Society of France, 271.—Volcanic Dust of Hecla, by Dr. Traill, 272.—Volcano in the Red Sea: Probable Submarine Volcano: Coal on the Rocky Mountains, discovered by Capt. Frémont, by James Hall, 273.

Botany and Zoology.—The Characters of some New Genera and Species of Compositæ from Texas, by ASA GRAY, M.D., 274.—Helix annulata: Ornithichnites: Plesiosaurus megacephalus, by S. STUTCHBURY: Physiological Remarks on the Statics of Fishes, by JOHN MULLER, 276.

Astronomy.—On the Attempts to explain the Projection of a Star on the Moon, during an Occultation, by Prof. POWELL, 277.—Astronomical Observations made under the direction of M. F. MAURY, Lieut. U. S. Navy, during the year 1845, at the U. S. Naval Observatory, Washington, 278.—Memoria sopra i colori delle Stelle del Catalogo di Baily, osservati dal P. Beneditto Sestini della campagnia di Gesu; Stelle del Catalogo di Baily dal polo boreali fino a 30° di Decl. Australe contrassegnate secondo i loro diversi colori osservati nella specola del Collegio Romano, 281.—Sixth Comet of 1846: Hind's Comet: LEVERRIER, 282.—M. GALLÉ, 283.

Miscellaneous Intelligence.—Effects of the Earth's Rotation upon Falling Bodies and upon the Atmosphere, by W. C. REDFIELD, 283.—Smithsonian Institution, 284.—Footprints and Indian Sculpture, 286.—Hecla: Cultivation of Cereal Grains in Cold Climates, by A. T. KUPFFER, 288.—On Comparative Analytical Researches on Sea Water, by Prof. FORCHHAMMER, 289.—On the Iron Manufacture of Great Britain, by Mr. G. R. PORTER, 291.—On Plate Glass making in England in 1846, contrasted with what it was 1827, by Mr. H. HOWARD: A Review of the Mines and Mining Industry of Belgium, by R. VALPY, Esq., 293.—On the Fairy-rings of Pastures, by Prof. J. T. WAY, 294.—Gun-Cotton, 295.—Lines of Electric Telegraph in the United States and Canada: The New Botanic Garden at Cambridge, Eng.: Ray Society, 296.—On the Duration of Life in the Members of the several Professions, founded on the Obituary Lists of the Annual Register, by Dr. GUY: On the Mortality of Children, by Mr. WIGGLESWORTH, 297.—Monument of the late THOMAS SAY, 298.

Bibliography.—Chemical Examination of the Urinary Calculi in the Museum of the Medical Department of Pennsylvania, by ROBERT PETER, M.D., 299.—Coast Survey; Report of Prof. A. D. BACHE, 300.—Light Houses; Report of the Secretary of the Treasury on the Improvements in the Light House System and Collateral Aids to Navigation, embracing a Report from Lieut. THORNTON A. JENKINS, U. S. N., and Lieut. RICHARD BACHE, U. S. N.: Journal of Lieut. J. W. ABERT, from Bent's Fort to St. Louis, in 1845, 301.—Chloris Boreali-Americana, by ASA GRAY, M. D.: Nomenclator Zoologicus, continens Nomina Systematica Generum Animalium, tam viventium quam fossilium, etc., Auctore L. AGASSIZ, 302.—Beiträge zur Pflanzenkunde des Russischen Reiches; herausgegeben von der Kaiserl. Acad. der Wissenschaften, 309.—Report on the Trees and Shrubs growing naturally in the Forests of Massachusetts, by GEO. B. EMERSON: Botanical Magazine, for January, 1847: A Treatise on Algebra, containing the latest Improvements, by CHARLES W. HACKLEY, S.T.D., 310.—Organic Remains: The Literary World; a Gazette for Authors, Readers and Publishers, 311.

List of Works, 311.

NUMBER IX.

Page.

ART. XXX. On the Relations which exist between the Phenomena of Erratic Blocks in Northern Europe and the Elevations of Scandinavia; by M. DESOR, - - - - - 313

XXXI. On the Analysis of the Oat; by Prof. JOHN PITKIN NORTON, 318

XXXII. On Free Electricity; by ROBERT HARE, M.D, - - 334

XXXIII. On Zoöphytes, No. V; by JAMES D. DANA, - - 337

XXXIV. Notices of Koordistan.—Hot Sulphur Spring—Manna—Mines of Lead—Sulphur and Orpiment—Rock Salt and Saline Springs—Ruins, &c., derived chiefly from the letters of Rev. A. H. WRIGHT, M.D., of the Mission of the

Page.

A.B.C.F.M., at Oroomiah, Persia; communicated by Oliver P. Hubbard, M.D., - - - - - - - 347

XXXV. Caricography; by Prof. C. Dewey, M.D., - - - 354

XXXVI. On a New Metal, Pelopium, contained in the Bavarian Tantalite; by Prof. H. Rose, - - - - - - 357

XXXVII. Termination of the Palæozoic Period, and Commencement of the Mesozoic; by D. D. Owen, M.D., - - 365

XXXVIII. Glycocoll (Gelatine Sugar) and some of its Products of Decomposition; by E. N. Horsford, - - - - - 369

XXXIX. Origin of the Grand Outline Features of the Earth; by James D. Dana, - - - - - - - - - - 381

XL. Notes on the Algæ of the United States; by Prof. J. W. Bailey, - - - - - - - - - - - 399

XLI. A few Remarks on the Silurian Classification; by Sir Roderick Impey Murchison, G.C.St.S., F.R.S., &c., - - 404

XLII. Hydrate of Nickel, a New Mineral; by Prof. B. Silliman, Jr., - - - - - - - - - - 407

XLIII. On Cupellation with the Blowpipe; by Wm. W. Mather, 409

XLIV. On the Variation of a Differential Coefficient of a Function of any number of Variables; by Prof. A. D. Stanley, 415

SCIENTIFIC INTELLIGENCE.

Chemistry and Physics.—On the presence of Fluorine in Anthracite, by George C. Schaeffer, 422.—Arseniate of Magnesia and Ammonia, and its applications, by M. Levol: On the Acids of Tobacco, by M. E. Goupil: On the Fusion of Phosphorus, by M. Ed. Desains: On Coffee, (third part,) by M. Payen, 423.—Determination of Nitrogen in Organic Bodies, by George Kemp, M.D.: On the Preparation of Caustic Baryta, by Dr. E. Riegel: Nitrogen not a Constituent of Picrotoxine, Erdmann and Marchand, 424.—On the influence of Protoxyd of Nitrogen upon Vegetation, by M. Vogel, Jr.: On the Volatile Oils of the Cruciferæ, by F. Pless: On the Oil of Monarda, by A. E. Arppe, 425.—On the Substances contained in Achillea millefolium, (Yarrow,) by B. Zanon: On the Formation of Caoutchouc from Drying Oils, by L. E. Jonas: Purification of Mercury, by M. Millon, 426.—Grove's Galvanic Battery, improved for the use of the Telegraph: Maximum Density of Pure Water, 427.—On a new and practical form of Voltaic Battery of the highest powers, in which Potassium forms the positive element, by John Goodman, Esq.: On Photographic Self-Registering Meteorological and Magnetical Instruments; by Francis Ronalds, Esq., F.R.S., &c., 428.

Mineralogy and Geology.—Buratite, a new Mineral, by M. Delesse: Groppite, a new Mineral, by L. Svanberg: Herschelite: Aspasiolite, a new Mineral, by M. Scheerer, 429.—Castor and Pollux, two new Minerals, by Breithaupt and Plattner: Pleochroism: Russian Geology: On Slaty Cleavage in North Wales, by Daniel Sharpe, 430.—On the Salt and Salt Lakes of Algeria, by H. Fournel: Volcanic Peak of the Island of Fogo, Cape Verds, by C. Deville, 432.—Notice of an Example of apparent Drift Furrows dependent on Structure, by C. B. Adams, 433.

Zoology.—On the Range of the Beaver in the United States, by S. B. Buckley: On the situation of the Olfactory Sense in the terrestrial tribe of the Gasteropodous Mollusca, by Joseph Leidy, M.D., 434.—Description of a new species of Anser, by George N. Lawrence, 435.—A new species of Procellaria from Florida, by G. N. Lawrence: Food of the Mastodon, by Prof. A. Gray: On the Moose and Carabou, and on the American Raven, by L. Agassiz: Pyranga roseo-gularis, a new species from Yucatan, by Dr. Cabot, 436.—Pygorhynchus Gouldii, a new Echinus from the Millstone Grit of Georgia, by M. Bouvé, 437.

Meteorology.—Meteorological Observations at Waioli, on Kauai, one of the Hawaian Islands, by Rev. EDWARD JOHNSON, 437.—On the amount of Rain and Snow at St. Louis, for the years 1837 to 1846, inclusive, by Dr. G. ENGELMANN, 438.—Meteorological Society in Finland: Auroral Belt, 440.

Astronomy.—The new Planet Neptune, 441.—New Comet: Expected return of the Comet of 1556, 443.—Parallax of a Fixed Star in Ursa Major: Planetary Nebulous Masses near the Sun, 444.

Miscellaneous Intelligence.—Relative Level of Lake Ontario, by C. DEWEY: Inhalation of Ether in Surgery, 444.—On the Nile, by Dr. C. T. BEKE, 447.—Water raised by Waves through Valved Tubes: Electric Telegraph, 449.—Dilatation of Ice: Measure of a Degree of a Meridian in Finland: Middendorf's Siberian Explorations: Beer River Springs, Rocky Mountains, 450.—Chalk and Coal Fires: Paris Academy of Sciences: Society of Naturalists at Trieste: New Appointments to Professorships in Harvard and Yale: Deviation of a Falling Body: Corrections, 451.—*Obituary.*—Dr. Amos Binney, 451.—Bory de St. Vincent, 452.

Bibliography.—Eulogy on John Pickering, LL.D., 452.—Botany of the Northern States: Palæontology of New York: Lyceum of Natural History of New York: Boston Journal of Natural History, 454.

List of works, 455.

Index, 457.

ERRATA.

Page 55, over figures, for *half*, read *twice*.—P. 96, *dele* first foot note.—P. 103, 13 lines from bottom, *for* 272, *read* 275.—In part of the edition, p. 116, 9 lines from bottom, for '*clearer*,' read *deeper*.—P. 117, 2 lines from top, *for* "Its specific gravity," *read* The specific gravity of this acid.—P. 139, 21 and 22 lines from top, for 395 and 399, read 3·95 and 3·99.—P. 147, 22 lines from top, for *Concorado*, read *Corcovado*. 18 lines from bottom, for *Borgard*, read *Bongard*.—P. 148, 2 lines from top, for *Balandier*, read *Berlandier*.—P. 149, 7th line from bottom, and p. 150, 21 lines from top, for *promising*, read *persevering*.—P. 299, 12 lines from bottom, for *Pennsylvania*, read *Transylvania*.—P. 301, 23 lines from bottom, for *catoptric*, read *dioptric*.

Vol. i, p. 427, under *Electric excitement of paper*, for *stone*, read *stove*.